



# Arizona Transportation Research Center

NEWSLETTER — JULY 2005

## STATE PLANNING AND RESEARCH (SPR) PROJECTS

### SMALL BUDGET RESEARCH PROJECT UPDATE

The ATRC small budget program sets aside \$100,000 each year for research studies with budgets of \$15,000 or less. Proposals may be presented at any time during the year. Each proposal is reviewed by the Arizona Department of Transportation (ADOT) Research Council. Proposals supported by a majority of the Research Council are funded. Typically, principal investigators for these projects include university students, professors, and small businesses. Occasionally, a large contractor will perform a study that is an extension of their work on other projects. Either way, these studies are usually an excellent value for ADOT. Studies approved so far under the fiscal year 2005 budget are discussed below.

### Project SPR-598, *Analysis of Bicycle Lanes (BL) Versus Wide Curb Lanes (WCL)*

This study will help evaluate the appropriate types of bicycle facilities for the State Highway System. Elements that will be studied include wide curb lanes and bicycle lanes.

### Project SPR-599, *Transit Travel Study*

This study will review the fixed route transit systems in the Phoenix and Tucson urban areas. The objective will be to evaluate how these systems impact other transportation elements.

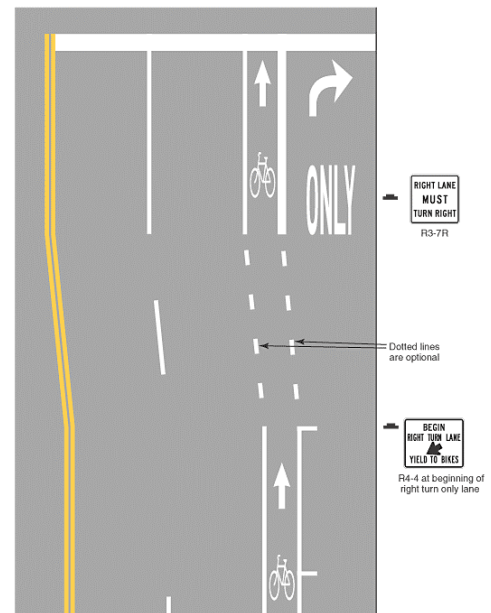
### Project SPR-600, *Evaluating the Effectiveness of Microbe Application to Petroleum Spills at Crash Sites*

Petroleum releases from crashes pose a threat to stormwater quality (both natural rain and runoff from fire departments at the crash site) and adjacent soils. One method commonly used to mitigate petroleum contaminated soils is the application of petroleum-eating microbes to affected areas. The focus of this research will be to evaluate the potential environmental benefits and costs of these strategies.

### Project SPR-601, *Cost Evaluation of Cross-Border Truck Emissions Testing using Heavy Duty Remote Sensing (HDRS) Equipment*

Trucks at Arizona Land Ports of Entry will soon be required to comply with new emissions standards set by the Environmental Protection Agency. The study objective is to perform a thorough evaluation of the feasibility and cost implications, initial installation and program costs, for a port of entry truck emissions program utilizing remote sensing technology. This research would study costs to test truck emissions at border crossings with Remote Sensing Technology. This involves projecting costs to install the Heavy Duty Remote Sensing equipment in the "Fast Lanes" at ADOT ports and also the costs of ongoing testing with HDRS.

Example of Bicycle Lane Treatment at Parking Lane into a Right Turn Only Lane



## TRQS PROGRAM

The first study under the ATRC Transportation Research Quick Study (TRQS) program was completed. The TRQS program provides up to \$2,500 to fund short-term transportation research efforts. The first study (TRQS-01) was performed under the direction of the ADOT Roadway Pre-Design Group. The funds were used to assist with data collection related to correcting substandard superelevation on roadway curves. Superelevation refers to the bank of a curve.

There are opportunities during repaving jobs to correct substandard superelevation rates. Differential milling techniques can build up one side of a curve and reduce the level of the other side to adjust the superelevation. ADOT is developing a policy to assist with prioritizing the curves for superelevation modification during repaving. The TRQS-01 study supported a consultant's work in gathering superelevation policy data from 12 other states. Report TRQS-01 will be available on the ATRC web site in August 2005.



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### **ATRC RESEARCH SERVICES**

The ATRC librarian, Mr. Dale Steele, regularly performs literature searches and other research tasks for ADOT staff. ATRC project managers can also respond to questions requiring a small research effort. Contact ATRC if you are looking for a document, reference or need additional information on a topic. The ATRC staff is available to assist you with your research needs.

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**MISSION:** The ATRC mission is to pursue and share knowledge in transportation systems and programs.